

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 94-014
NPDES PERMIT NO. CA0038539

WASTE DISCHARGE REQUIREMENTS FOR:

WEST COUNTY AGENCY OF CONTRA COSTA COUNTY, CALIFORNIA
WEST COUNTY WASTEWATER DISTRICT, AND
CITY OF RICHMOND MUNICIPAL SEWER DISTRICT
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The West County Agency of Contra Costa County, California (hereinafter called the discharger), submitted a Report of Waste Discharge dated March 3, 1993 for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger is a Joint Powers Agreement, the members of which separately own and operate two treatment plants for domestic, commercial, and industrial wastewater in the Richmond area of Contra Costa County. The City of Richmond Water Pollution Control Plant is located at 601 Canal Blvd. in Richmond. This facility serves most of the incorporated City of Richmond. The other plant is the West County Wastewater District (previously known as the West Contra Costa Sanitary District), which is located at 2377 Garden Tract Road. This facility serves part of the incorporated City of Richmond, all of the City of San Pablo, and the unincorporated communities of Tara Hills, El Sobrante, and an area north of El Cerrito.
3. The discharger presently discharges an average dry weather flow of 13.1 million gallons per day (MGD) of combined effluent from the West County Wastewater District and the City of Richmond Municipal Sewer District secondary treatment plants which have a combined average dry weather flow capacity of 28.5 MGD. The treated effluent is discharged into San Francisco Bay, a water of the State and of the United States, via a single deepwater outfall located 4,700 feet offshore of Point Richmond at a depth of 26 feet below mean lower low water (Latitude 37 deg., 54 min., 47 sec.; Longitude 122 deg., 25 min., 06 sec.).
4. The West County Wastewater District (WCWD) treatment facility provides secondary treatment for an average dry weather flow of 6.7 MGD and has a dry weather design capacity of 12.5 MGD. Treatment consists of screening, grit removal, flow equalization, primary sedimentation, high-rate trickling filter, activated sludge, secondary clarification, and chlorination. Treated effluent is conveyed via a force main to a junction structure at the Richmond treatment facility. Sludge is anaerobically digested, dried in open lagoons, and disposed of by landfill burial at an authorized disposal site.

5. The City of Richmond Municipal Sewer District (City of Richmond) treatment facility provides secondary treatment for an average dry weather flow of 6.4 MGD and has a dry weather design capacity of 16.0 MGD. Treatment consists of screening, grit removal, comminution, preaeration, primary sedimentation, activated sludge, secondary clarification, and chlorination. Treated effluent is combined with the WCWD chlorinated effluent and the combined effluent is dechlorinated by sulfonation prior to discharge by gravity via the deepwater outfall to San Francisco Bay. Sludge is thickened by dissolved air flotation, anaerobically digested and conveyed via force main to the WCWD facilities, for drying and disposal by landfill burial.
6. There are potentially viable shellfish beds in San Francisco Bay that could be affected by the discharge of wastewater from the West County Agency outfall. For the protection of these shellfish beds, the outfall provides a minimum dilution of at least 45:1 under normal conditions. Less dilution may occur during periods when high delta outflows cause stratification of receiving waters, but shellfish should nonetheless receive adequate protection during such periods.
7. The WCWD facility includes three flow equalization basins for management of wet weather flows. During periods when wet weather flows exceed the plant's secondary treatment capacity, influent wastewater is diverted to and stored in the basins. After peak flows have sufficiently subsided, stored wastewater is returned to the plant headworks to receive full secondary treatment.
8. The City of Richmond completed a Wet Weather Facilities Improvement Program in 1988. These improvements included modifications to existing facilities to provide primary treatment and disinfection for wet weather flows in excess of the plant's secondary treatment capacity. These improvements allow for storage of up to two million gallons of primary treated effluent during peak flows with subsequent return of stored wastewater for full secondary treatment.
9. The City of Richmond treatment plant has a wet weather capacity of approximately 24 MGD. Currently, peak wet weather flows exceed the treatment plant capacity. During these peak wet weather periods, wastewater flows in excess of the capacity of the activated sludge and secondary clarification basins are diverted from the primary clarification tanks to the disinfection system. A blend of primary and secondary treated wastewater is then disinfected and dechlorinated for discharge to the outfall. During these bypass events, the effluent is generally in compliance with all effluent limitations, with the exception of an occasional oil and grease violation.
10. The discharge is presently governed by Regional Board Order No. 88-071, adopted by the Board on May 18, 1988, which allows discharge to San Francisco Bay.
11. WCWD and the City of Richmond have implemented and are maintaining Environmental Protection Agency (EPA) approved Pretreatment Programs in accordance with the Regional Board Order No. 89-179.

12. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on September 16, 1992, and the State Board approved the revised Water Quality Control Plan on April 27, 1993. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.
13. The Regional Board amended the Basin Plan on October 21, 1992 to adopt a site-specific objective of 4.9 ug/l for copper for San Francisco Bay, and again, on June 16, 1993 to adopt a wasteload allocation for copper (Resolution 93-61). The mass loading limits for copper were developed from the region-wide wasteload allocation for copper, to implement the site specific concentration limit by requiring reductions in copper mass discharged from riverine, non-point discharges, and municipal and industrial discharges throughout the San Francisco Bay-Delta Estuary. The State Board has not approved the Basin Plan amendments of October 1992 and June 1993 as of the date of this permit reissuance.
14. If the State Board approves a copper wasteload allocation, this permit will be amended to include a copper mass loading limit and a copper reduction requirement. The copper effluent limitation specified in this permit is based on the revised Basin Plan approved by the State Board.
15. The beneficial uses identified in the Basin Plan for San Francisco Bay are as follows:
 - a. Industrial Process and Service Supply
 - b. Navigation
 - c. Water Contact Recreation
 - d. Non-contact Water Recreation
 - e. Ocean Commercial and Sport Fishing
 - f. Wildlife Habitat
 - g. Preservation of Rare and Endangered Species
 - h. Fish Migration
 - i. Fish Spawning
 - j. Shellfish Harvesting
 - k. Estuarine Habitat
16. The revised Basin Plan contains new effluent limitations for selected toxic pollutants such as heavy metals and other priority pollutants. The revised Basin Plan allows for distinction between effluent limitations that are met by current performance, and effluent limitations not currently attained. Immediate compliance is required for effluent limits that are met by current performance. Compliance with effluent limitations not currently attained may be established in accordance with a time schedule specified by the Board, providing that the discharger participates in an aggressive source control program.
17. A review of the discharger's monitoring data indicated that the discharger will not be able to immediately comply with the effluent limitations for copper and mercury. This Order specifies interim limits for these constituents, and a time schedule for compliance with the Basin Plan limitations. This Order requires that the discharger continue efforts to

reduce copper and mercury at the source through implementation of its Pollution Prevention Program.

18. The 1986 Basin Plan initiated the Effluent Toxicity Characterization Program (ETCP) in which dischargers were required to monitor their effluent using critical life stage toxicity tests to generate information on toxicity test species sensitivity and effluent variability to allow development of appropriate chronic toxicity effluent limitations.
19. The discharger completed the Screening Phase of the ETCP in February 1992, and began the Variability Phase of their effluent testing in July 1992. To date, the results of the Variability Phase testing have not warranted the initiation of a Toxicity Identification Evaluation. The discharger is currently required to complete the Variability Phase testing, and will commence routine compliance monitoring in July, 1994.
20. Federal Regulations for stormwater discharges were promulgated by the United States Environmental Protection Agency on November 16, 1990. The regulations [40 Code of Federal Regulations, Parts 122, 123, and 124] require specific categories of industrial activities which discharge storm water associated with industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.
21. On January 25, 1993, WCWD submitted a letter requesting exemption from the storm water sampling and analysis requirements. This request was based on the fact that about 90% of the facility is covered with sludge drying lagoons. Storm water flows from the lagoons is returned through an enclosed pipe system to the plant headworks for treatment. The remainder of the facility is covered with buildings, landscaping, or with pavement. A portion of the storm water from this part of the facility is directed through the treatment plant, and the remainder is discharged into the marsh area adjacent to the plant. The entire paved area is mechanically swept prior the the advent of the rainy season.
22. A portion of the facility grounds from which storm water discharges to the marsh is used for material storage. WCWD will not be exempted from storm water sampling and analysis requirements for the material storage area until it has been covered, or otherwise modified to eliminate the storm water pollution potential.
23. City of Richmond stormwater flows are collected in a surface and underground storm drain system. Stormwater flows are discharged to an unnamed slough located to the east of the treatment plant, on the east side of Canal Blvd. The storm water flows described in these Findings constitute all industrial storm water at the WCWD and City of Richmond treatment plants, and consequently this permit regulates all industrial storm water discharge at these facilities. This Order includes requirements for sampling and monitoring of stormwater flows from the grounds of both treatment plants.
24. An Operation and Maintenance Manual is maintained by the City of Richmond and WCWD for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended

operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.

25. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
26. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
27. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the West County Agency of Contra Costa County, California, a joint powers agency, the West County Wastewater District and the City of Richmond Municipal Sewer District shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plants or from the collection systems or pump stations tributary to the treatment plants is prohibited. Bypass of secondary treatment is allowed for flows in excess of secondary capacity during storm events as described in Finding 9 of this Order.
2. The discharge of average dry weather flows greater than 28.5 million gallons per day is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.
3. Degradation of harvestable shellfish in the area as a result of the discharge is prohibited.
4. Discharge of waste at any point where it does not receive a minimum initial dilution of 45:1, other than during periods when the Delta outflow is greater than 8,000 cubic feet per second, is prohibited. During the periods of Delta outflow greater than 8,000 cubic feet per second, the waste shall receive a minimum initial dilution of 10:1 at all times.
5. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by this NPDES permit, to a storm drain system or waters of the state are prohibited.
6. Storm water discharges shall not cause pollution, contamination, or nuisance.

B. EFFLUENT LIMITATIONS

1. The effluent discharged to the outfall shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instan- taneous Maximum</u>
a. Biochemical Oxygen Demand (BOD ₅ , 20°C)	mg/l	30	45	60	--
b. Total Suspended Solids	mg/l	30	45	60	--
c. Oil and Grease	mg/l	10	--	20	--
d. Settleable Matter	ml/l-hr	0.1	--	--	0.2
e. Total Chlorine Residual	mg/l	--	--	--	0.0 [1]

[1] Requirement defined as below the limit of detection in standard test methods.

2. pH: The pH of the effluent shall not be less than 6.0, nor greater than 9.0.
3. Total Coliform Bacteria: The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 240 MPN/100 ml; and, any single sample shall not exceed 1100 MPN/100 ml.
4. 85 Percent Removal, BOD and TSS: The arithmetic mean of the biochemical oxygen demand (five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85% removal).
5. Effluent Toxicity
 - 5.1 Acute Toxicity: The survival of organisms in undiluted effluent shall be an 11-sample median value of not less than 90 percent survival, and a 90 percentile value of not less than 70 percent survival. The 11-sample median and 90th percentile effluent limitations are defined as follows:

11-sample median: If five or more of the past ten or fewer samples show less than 90 percent survival, then survival of less than 90 percent on the next sample represents a violation of the effluent limit;

90th percentile: If one or more of the past ten or fewer samples show less than 70 percent survival, then survival of less than 70 percent on the next sample represents a violation of the effluent limitation.

5.2 Chronic Toxicity: The discharge governed by this permit is classified as a deep water discharge. The chronic toxicity effluent limitation is based on a dilution ratio of 10:1. The effluent from the treatment plant as discharged, shall meet both of the following chronic toxicity limitations, beginning in July, 1994

- a. an eleven sample median value¹ of 10 TUC²; and,
- b. a 90 percentile value³ of 20 TUC².

¹ A test sample showing chronic toxicity greater than 10 TUC represents consistent toxicity and a violation of this limitation, if five or more of the past ten or less tests show chronic toxicity greater than 10 TUC.

² A TUC equals 100/NOEL. The NOEL is the no observable effect level, determined from IC, EC, or NOEC values. These terms and their usage in determining compliance with the limitations are defined in Attachment A of this Order. The NOEL shall be based on a critical life stage test using the most sensitive test species as specified by the Executive Officer. The Executive Officer may specify two compliance species if test data indicate that there is alternating sensitivity between the two species. If two compliance test species are specified, compliance shall be based on the maximum TUC value for the discharge sample based on a comparison of TUC values obtained through concurrent testing of the two species.

³ A test sample showing chronic toxicity greater than 20 TUC represents consistent toxicity and a violation of this limitation if one or more of the past ten or less samples shows toxicity greater than 20 TUC.

6. TOXIC SUBSTANCES EFFLUENT LIMITATIONS: The discharge of effluent containing constituents in excess of the following concentration limits is prohibited: [Units for all limits are in ug/l]

TABLE 1

<u>Constituent</u>	<u>Monthly Average</u>	<u>Daily Average</u>	<u>Interim Limits</u>	
			<u>From 1/94 To 1/97</u>	<u>From 1/97 To 1/99</u>
Arsenic		200 [4]		
Cadmium		30 [4]		
Chromium (VI) [1]		110 [4]		
Copper		17	130 [5]	75 [5]
Lead [3]		53		
Mercury	0.21	21	1 [5]	1 [5]
Nickel [3]		65		
Selenium [3]		50		
Silver		23		
Zinc [3]		580 [4]		
Cyanide [2]		25		

TABLE 1 (cont)

<u>Constituent</u>	<u>Monthly Average</u>	<u>Daily Average</u>
TCDD Equivalents	1.4E-07	
PAHS	0.31	150
Tributyltin	0.05	
1,2 Dichlorobenzene	180,000	
1,3 Dichlorobenzene	26,000	
1,4 Dichlorobenzene	640	
Benzene	210	
Chloroform	4,800	
Dichloromethane	16,000	
Halomethanes	4,800	
Toluene	3,000,000	
2,4,6 Trichlorophenol	10	
Fluoranthene	420	
Hexachlorobenzene	0.0069	
Pentachlorophenol		79
Phenol	500	
Aldrin	0.0014	
A-BHC	0.13	
B-BHC	0.46	
Chlordane	0.00081	0.04
DDT	0.006	0.01
Dieldrin	0.0014	0.019
Endosulfan		0.087
Endrin		0.023
G-BHC (Lindane)	0.62	1.6
Heptachlor	0.0017	0.036
Heptachlor Epoxide	0.0007	
Toxaphene		0.002
PCBS (Total)	0.0007	0.3

Footnotes for Table 1:

- [1] The discharger may meet the limit for hexavalent chromium as total chromium.
- [2] The discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- [3] Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.
- [4] Limit was specified in the previous permit and is lower than the new limit specified in the revised Basin Plan. The discharger has maintained compliance with this lower limit; therefore, this limit will continue to apply to the effluent, and not be replaced with the new limit from the Basin Plan.
- [5] Interim limits are daily averages for copper and mercury which shall apply until January 19, 1999. After this date, the limit for copper shall be 17 ug/l, and for mercury, 0.21 ug/l as shown in the Daily and Monthly Average columns of Table 1. The first interim limit for copper is based

on plant performance since January, 1990. The second interim limit for copper is the midpoint value from the first interim limit to the water quality based final limit. The interim limit for mercury is based on the 1986 Basin Plan. If the discharger has made efforts to reduce copper and mercury to the maximum extent possible to the satisfaction of the Executive Officer, and is unable to comply with the Basin Plan limits, then the Board will consider extension of the interim limit time schedule.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place at levels that cause nuisance or adversely affect beneficial uses:

- a. Floating, suspended, or deposited macroscopic particulate matter or foam;
- b. Bottom deposits or aquatic growths;
- c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
- d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
- e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:

- a. Dissolved Oxygen: 5.0 mg/l, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

- b. Dissolved Sulfide 0.1 mg/l, maximum

- c. pH: The pH shall not be depressed below 6.5 or raised above 8.5, and the pH shall not vary from normal ambient pH by more than 0.5 pH units.

- d. Un-ionized ammonia 0.025 mg/l as N, annual median
0.16 mg/l as N, maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

4. Storm water discharges shall not adversely impact human health or the environment.
5. Storm water discharges shall not cause or contribute to a violation of any applicable water quality objective for receiving waters contained in the revised Basin Plan.

D. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge generated by the discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Parts 258 and 503. If the discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to the EPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR Parts 258 and 503 are enforceable by EPA whether or not they are stated in an NPDES permit or other permit issued to the permittee.
2. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest recorded tidal event as measured at the closest historical reference point.
6. If sludge is reused or disposed of in accordance with 40 CFR 503, then the discharger shall submit an annual report to the EPA and the Regional Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked by February 19 of each year, for the period covering the previous calendar year.
7. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.
8. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the discharger.

9. General Provision C of this Board's "Standard Provisions and Reporting Requirements" dated August, 1993 apply to sludge handling, disposal and reporting practices.
10. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

E. STORMWATER MONITORING AND REPORTING REQUIREMENTS

1. The stormwater requirements and provisions in this Order supercede the requirements specified in the SWRCB Industrial Activities Storm Water General Permit for the regulation of stormwater at the WCWD and the City of Richmond treatment plants.
2. WCWD and the City of Richmond shall continue to implement their Storm Water Pollution Prevention Plans (SWPP Plans) at both treatment plants in accordance with the attached "Standard Storm Water Provisions". The SWPP plans shall be reviewed and updated as appropriate by October 1, every year. Full compliance with the "Standard Storm Water Provisions" shall be an enforceable requirement of this permit.
3. Until the material storage area at the WCWD treatment plant is covered or otherwise modified to eliminate the storm water pollution potential, WCWD must sample stormwater runoff from this portion of the site for chemical analysis as indicated in these Provisions and the attached Standard Storm Water Provisions. WCWD may not discontinue sampling of stormwater until authorized to do so by the Executive Officer.
4. WCWD and the City of Richmond shall continue to implement a storm water monitoring and sampling program. The monitoring program shall be developed and amended, when necessary, to meet the following objectives:
 - a. To monitor the quality of storm water discharges relative to Discharge Prohibitions, Effluent Limitations, and Receiving Water Limitations.
 - b. The aid in the implementation of the Storm Water Pollution Prevention Plan.
 - c. To measure the effectiveness of control measures and management practices in removing pollutants in storm water discharge.
5. During the wet season (October 1 to April 30), the discharger shall:
 - a. Conduct visual observations of the storm water discharge locations on at least one storm event per month that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discolorations, turbidity, and odor, etc. A significant storm water discharge is a continuous discharge of storm water for a minimum of one hour, or intermittent discharge of storm water for a minimum of three hours in a 12-hour period.
 - b. Measure (or estimate) the total volume of storm water discharge and collect and analyze grab samples of storm water discharge from at least two storm events that produce significant storm water discharge for: Oil and Grease, pH, Total Suspended Solids, Specific

Conductance, and other pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

The grab sample(s) shall be taken during the first thirty minutes of the discharge. If the collection of the grab sample(s) during the first 30 minutes is impracticable, grab sample(s) can be taken during the first hour of the discharge, and the discharger shall explain in the annual monitoring report why the grab sample(s) could not be taken in the first 30 minutes.

6. Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May to September) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; and/or analysis and validation of accurate piping schematics. Records shall be maintained of the description of the method used, date of testing, locations observed, and test results.
7. Samples shall be collected from all locations where storm water is discharged. Samples must represent the quality and quantity of storm water discharged from the facility. If storm water discharges occur at multiple locations, the discharger may sample a reduced number of locations if it is established and documented in the monitoring program that storm water discharges from different locations are substantially identical.
8. Records of all storm water monitoring information and copies of all reports required by this Order shall be retained for a period of at least three years from the date of the sample, observation, or report. Storm water monitoring results shall be reported in the monthly Self-Monitoring Reports.

F. PROVISIONS

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 88-071. Order No. 88-071 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

$$(\text{Mass Emission Limit in kg/day}) = (\text{Concentration Limit in mg/l}) \times (\text{Actual Flow in million gallons per day averaged over the time interval to which the limit applies}) \times 3.78 \text{ (conversion factor)}.$$

3. The Discharger shall comply with all sections of this Order immediately upon adoption.
4. Compliance with Acute Toxicity Effluent Limitation:
 - a. Compliance with Effluent Limitation B.5.1 of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours in flow through bioassays. Each fish specie tested represents a single bioassay.
 - b. Two fish species shall be tested concurrently. These shall be the most sensitive two species determined from a single concurrent

screening (all tests must be completed within ten days of initiating the first test) of the following three species: three-spine stickleback, rainbow trout and fathead minnow. The three species screening requirement can be met using either flow-through or static renewal bioassays. The Board may consider allowing compliance monitoring with only one (the most sensitive, if known) fish species if the following condition is met:

- 1) The discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two fish species.
- c. All bioassays shall be performed according to protocols approved by the U.S. EPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.
 - d. If concurrent screenings have been conducted prior to this permit reissuance, the existing data may be submitted to the Board. If such information is found to meet the requirements of the Basin Plan, further screenings would not be required.
 - e. The discharger shall submit a proposed time schedule for compliance with the above described requirements. Compliance shall be established no later than February 1, 1995.
5. Chronic Toxicity Compliance Monitoring: The discharger shall commence monitoring by July, 1994 in accordance with the attached Self-Monitoring Program. The specie(s) to be used are to be determined based on the results of the Variability Phase testing, and shall be authorized by the Executive Officer. The discharger shall submit a general TIE work plan acceptable to the Executive Officer by July 1, 1994. If violation of the chronic toxicity effluent limitation occurs, the discharger shall implement the TIE work plan within 30 days of the date of violation.
 6. TRE for Chronic Toxicity: If there is a violation of the chronic toxicity effluent limitation, the discharger shall conduct a chronic toxicity reduction evaluation (TRE), which shall initially involve a toxicity identification evaluation (TIE). The TIE shall be in accordance with a work plan acceptable to the Executive Officer. The TIE shall be initiated within 30 days of the date of violation. The objective of the TIE shall be to identify the chemical or combination of chemicals that are causing the observed toxicity. Every effort using currently available TIE methodologies shall be employed by the discharger.

As toxic constituents are identified or characterized, the discharger shall continue the TRE by determining the source(s) of the toxic constituent(s) and evaluating alternative strategies for reducing or eliminating the constituent(s) from the discharge. All reasonable steps shall be taken to reduce toxicity to the required level. The Board recognizes that identification of causes of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the discharger's actions in identifying and reducing sources of consistent toxicity.

7. Screening Phase for Chronic Toxicity: The discharger shall conduct screening phase compliance monitoring under either of the two conditions described in Attachment B of this Order. The discharger shall conduct screening phase compliance monitoring in accordance with a proposal submitted to and acceptable to the Executive Officer. The proposal shall contain, at a minimum, the elements specified in Attachment B of this Order. The purpose of the screening is to determine the most sensitive test species for subsequent routine compliance monitoring for chronic toxicity.
8. Pursuant to 40 CFR 122.44, 122.62, and 124.5, the definition of the NOEL contained in Attachment A of this Order may be modified prior to the expiration date based on guidance issued by the State Board.
9. Compliance With the Copper and Mercury Interim Limits: The discharger shall implement an aggressive source identification and control program for copper and mercury in the effort to reduce sources of copper and mercury in their effluent to the maximum extent possible. Source identification and reduction is required in order to comply with the 17 ug/l and 0.21 ug/l concentration limits for copper and mercury, by May 1, 1997 and December 1, 1998, respectively. The discharger shall develop a Source Identification and Reduction Plan for identification of copper and mercury sources, and implementation of measures that may reduce mercury copper and mercury discharge to the plants. Any reduction steps that can be initiated immediately without further planning shall be implemented, and discussed in the plan. This plan shall be submitted by October 1, 1994.

Following submittal of the above described Plan, status reports, acceptable to the Executive Officer, documenting efforts and evaluating the program's success shall be submitted semi-annually, on January 30 and July 30 of each year. These reports may be submitted concurrently with the reports prepared for the Pretreatment Program. Duplicate copies shall be provided. These status reports shall, as necessary, identify specific source control actions, and establish time schedules for implementation of these actions.


10. Compliance Monitoring for Toxic Constituents: The discharger shall initiate a monitoring program using appropriate EPA methods and detection limits, to evaluate compliance status for all constituents listed in Effluent Limitation B.6, Table 1. Monitoring for all constituents shall be as specified in the attached Self-Monitoring Program.
11. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharges governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
12. WCWD and the City of Richmond shall each review, and update as necessary, their Operations and Maintenance Manual, annually, or within 90 days of completion of any significant facility or process changes. The Discharger shall submit to the Board, by April 15th of each year, a letter describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.

13. Annually, WCWD and the City of Richmond shall each review and update as necessary, their contingency plans as required by Board Resolution No. 74-10. The Discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this order pursuant to Section 13387 of the California Water code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.
14. WCWD and the City of Richmond shall each implement and enforce their approved pretreatment program in accordance with Board Order 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to:
 - a. Enforcement of National Pretreatment Standards (e.g., prohibited discharges, Categorical Standards, local limits) in accordance with 40 CFR 403.5 and Section 307 (b) and (c) of the Clean Water Act.
 - b. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program.
 - c. Submission of annual and quarterly reports to EPA and the State as described in Board Order 89-179, and its amendments thereafter.
15. WCWD and the City of Richmond shall each implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities. A report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by April 15 of each year.
16. The discharger shall conduct monitoring in accordance with the attached Self-Monitoring Program, as adopted by the Board and as may be amended by the Executive Officer. The Self-Monitoring Program may be amended by the Board pursuant to EPA regulations 40 CFR 122.62, 122.63, and 124.5.
17. Pursuant to USEPA regulations 40 CFR 122.44, 122.62, and 124.5, this permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order.
18. The discharger shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated August, 1993.
19. This order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to section 402 of the Clean Water Act or

amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator of the Environmental Protection Agency has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

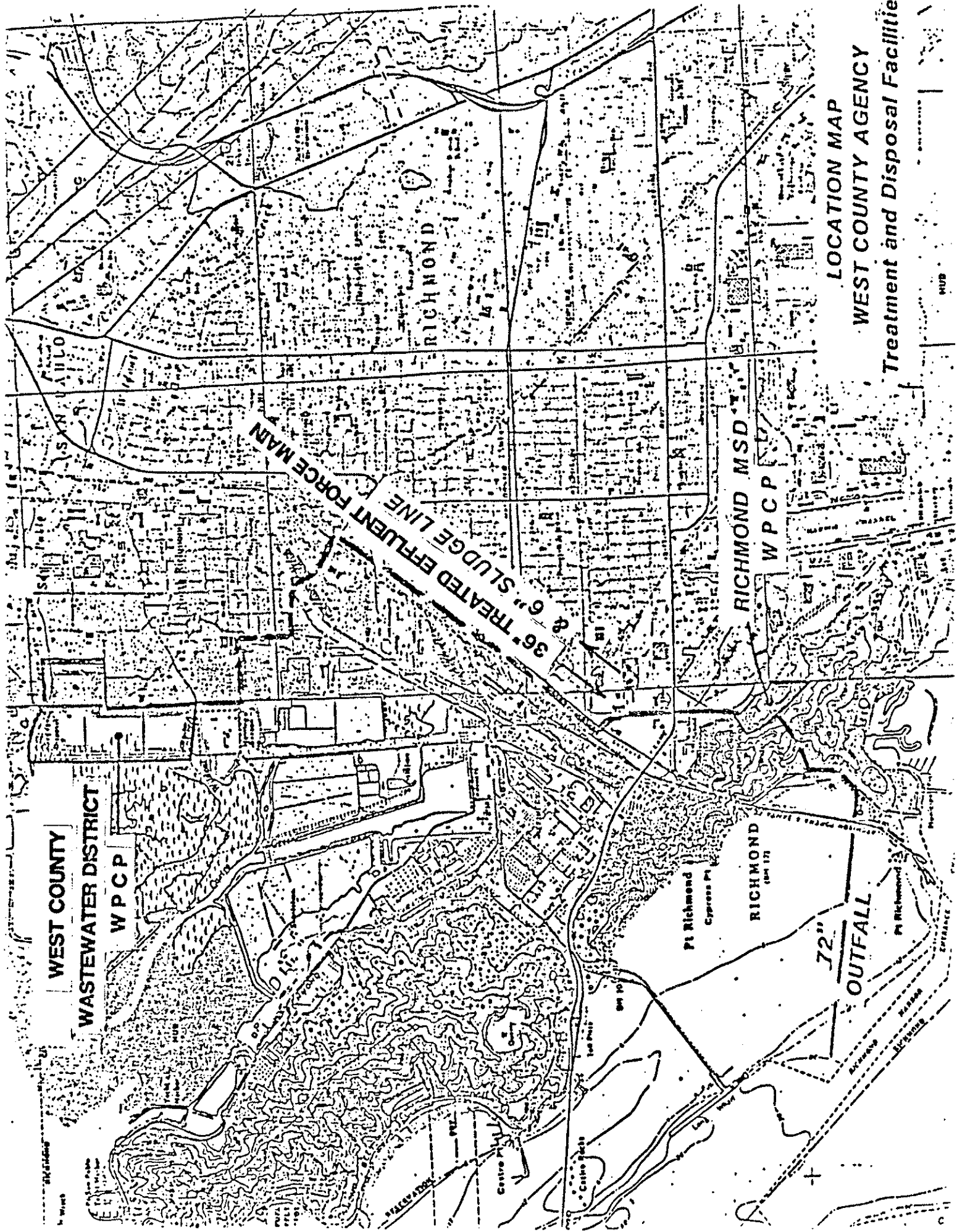
20. This order expires on January 19, 1999. The discharger must file a Report of Waste Discharge (Permit application) in accordance with Title 23, Chapter 3, Subchapter 9 of the California Code of Regulations not later than 180 days in advance of such expiration date, as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on January 19, 1994.


STEVEN R. RITCHIE
Executive Officer

Attachments:

- Figure 1 - Facility Map
- Attachment A - Definition of NOEL
- Attachment B - Chronic Toxicity Screening Phase Monitoring Requirements
- Attachment C - Definition of Terms for Chemical Constituents
- Self-Monitoring Program
- Standard Provisions and Reporting Requirements, December 1986
- Standard Stormwater Provisions
- Resolution No. 74-10



WEST COUNTY

WASTEWATER DISTRICT

WPCP

36" TREATED EFFLUENT FORCE MAIN
& 6" SLUDGE LINE

RICHMOND MSD

WPCP

Pt Richmond
Cypress Pt

RICHMOND
(44 17)

72" OUTFALL

Pt Richmond

LOCATION MAP

WEST COUNTY AGENCY

Treatment and Disposal Facility

HUB

ATTACHMENT A

DEFINITION OF NO OBSERVED EFFECT LEVEL

No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25} . If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25% of the test organisms.

Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal, non-quantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25% reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as EPA's Bootstrap Procedure.

No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

ATTACHMENT B

SCREENING PHASE MONITORING
REQUIREMENTS

- A. Screening phase compliance monitoring is required:
1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to pretreatment, source control, and waste minimization efforts; or
 2. Prior to Permit reissuance. Screening phase monitoring data shall be included in the NPDES Permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.
- B. Design of the screening phase shall, at a minimum, consist of the following elements:
- Use of test species specified in Table B-1 and B-2 (attached), and use of the protocols referenced in those tables, or as approved by the Executive Officer;
 - Two stages:
 - Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on Table B-3 (attached); and
 - Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.
 - Appropriate controls; and
 - Concurrent reference toxicant tests.
- C. The discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

TABLE B-1
CRITICAL LIFE STAGE TOXICITY TESTS FOR ESTUARINE WATERS

SPECIES	EFFECT	TEST DURATION	REFERENCE
alga (<u>Skeletonema costatum</u>) (<u>Thalassiosira pseudonana</u>)	growth rate	4 days	1
red alga (<u>Champia parvula</u>)	number of cystocarps	7-9 days	5
giant kelp (<u>Macrocystis pyrifera</u>)	percent germination; germ tube length	48 hours	3
abalone (<u>Haliotis rufescens</u>)	abnormal shell development	48 hours	3
oyster (<u>Crassostrea gigas</u>) mussel (<u>Mytilus edulis</u>)	abnormal shell development; percent survival	48 hours	2
Echinoderms (urchins - <u>Strongylocentrotus</u> <u>purpuratus</u> , <u>S. franciscanus</u>); (sand dollar - <u>Dendraster</u> <u>excentricus</u>)	percent fertilization	1 hour	4
shrimp (<u>Mysidopsis bahia</u>)	percent survival; growth; fecundity	7 days	5
silversides (<u>Menidia beryllina</u>)	larval growth rate; percent survival	7 days	5

TOXICITY TEST REFERENCES

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for conducting static 96-hour toxicity tests with microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. American Society for Testing Materials (ASTM). 1989. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-89. ASTM, Philadelphia, PA.
3. Anderson, B.B. J.W. Hunt, S.L. Turpen, A.R. Coulon, M. Martin, D.L. McKeown, and F.H. Palmer. 1990. Procedures manual for conducting toxicity tests developed by the marine bioassay project. California State Water Resources Control Board, Sacramento.
4. Dinnel, P.J., J. Link, and Q. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16:23-32. and S.L. Anderson. September 1, 1989. Technical Memorandum. San Francisco Bay Regional Water Quality Control Board, Oakland, CA.
5. Weber, C.I., W.B. Horning, II, D.J. Klem, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

TABLE B-2
CRITICAL LIFE STAGE TOXICITY TESTS FOR FRESH WATERS

SPECIES	EFFECT	TEST DURATION	REFERENCE
fathead minnow (<u>Pimephales promelas</u>)	survival; growth rate	7 days	6
water flea (<u>Ceriodaphnia dubia</u>)	survival; number of young	7 days	6
alga (<u>Selenastrum capricornutum</u>)	cell division rate	4 days	6

TOXICITY TEST REFERENCE

6. Horning, W.B. and C.I. Weber (eds.). 1989. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Second edition. U.S. EPA Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

TABLE B-3
TOXICITY TEST REQUIREMENTS FOR STAGE ONE SCREENING PHASE

REQUIREMENTS	RECEIVING WATER CHARACTERISTICS		
	DISCHARGES TO COAST	DISCHARGES TO SAN FRANCISCO BAY†	
	Ocean	Marine	Freshwater
Taxonomic Diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type			
Freshwater†	0	1 or 2	3
Marine	4	3 or 4	0
Total number of tests	4	5	3

† The fresh water species may be substituted with marine species if:

- 1) the salinity of the effluent is above 5 parts per thousand (ppt) greater than 75% of the time, or
- 2) the ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

‡ Marine refers to receiving water salinities greater than 5 ppt at least 75% of the time during a normal water year. Fresh refers to receiving water with salinities less than 5 ppt at least 75% of the time during a normal water year.

ATTACHMENT C

DEFINITION OF TERMS^[1] FOR CHEMICAL CONSTITUENTS

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

DDT shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ENDRIN shall mean the sum of endrin and endrin aldehyde.

HALOMEHTANES shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity equivalence factors, as shown in the table below.

<u>Isomer Group</u>	<u>Toxicity Equi- valence Factor</u>
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8-tetra CDF	0.1
1,2,3,7,8-penta CDF	0.05
2,3,4,7,8-penta CDF	0.5
2,3,7,8-hexa CDFs	0.1
2,3,7,8-hepta CDFs	0.01
octa CDF	0.001

[1] Source: Water Quality Control Plan for Enclosed Bays and Estuaries of California, State Water Resources Control Board, April 1991.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

WEST COUNTY AGENCY OF CONTRA COSTA COUNTY, CALIFORNIA

WEST COUNTY WASTEWATER DISTRICT AND

CITY OF RICHMOND MUNICIPAL SEWER DISTRICT

NPDES PERMIT NO. CA0038539

ORDER NO. 94-014

CONSISTS OF

PART A, dated August 1993

AND

PART B

PART B

SELF-MONITORING PROGRAM for:

WEST COUNTY AGENCY
WEST COUNTY WASTEWATER DISTRICT AND
CITY OF RICHMOND MUNICIPAL SEWER DISTRICT

NPDES Permit No. CA0038539

I. DESCRIPTION OF SAMPLING STATIONS

NOTE: A sketch showing the locations of the stations described below shall accompany each monthly report, and the Annual report for each calendar year.

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the West County Wastewater District treatment facilities headworks at which all waste tributary to the system is present and prior to any phase of treatment.
A-002	At any point in the City of Richmond treatment facilities headworks at which all waste tributary to the system is present and prior to any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the joint outfall between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-DC).
E-001-D-1	At any point in the West County Wastewater District disinfection facilities at which point adequate contact with the disinfectant is assured.
E-001-D-2	At any point in the City of Richmond disinfection facilities at which point adequate contact with the disinfectant is assured.
E-001-DC	At any point in the joint outfall at which all waste tributary to that outfall is present and all waste has been disinfected and dechlorinated.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in San Francisco Bay located directly above the center of the discharge diffuser.
C-2	At a point in San Francisco Bay located 200 feet upstream from the center of the discharge diffuser.
C-3	At a point in San Francisco Bay located 200 feet downstream from the center of the discharge diffuser.
C-R	At a point in San Francisco Bay located 1000 feet upstream from the center of the discharge diffuser.

D. LAND OBSERVATIONS

(WEST COUNTY WASTEWATER DISTRICT AND CITY OF RICHMOND TREATMENT PLANTS)

<u>Station</u>	<u>Description</u>
P-1 through P-'n'	Located along the periphery of the waste treatment plant, at equidistant intervals, not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each annual report).

E. OVERFLOWS AND BYPASSES

(WEST COUNTY WASTEWATER DISTRICT AND CITY OF RICHMOND TREATMENT PLANTS)

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, collection systems, wet weather overflow structures, and sludge drying beds.

NOTE: 1. A map and description of each known or observed overflow or bypass location shall accompany each monthly report. A summary of these occurrences and their locations shall be included with the Annual Report for each calendar year.

2. Each occurrence of a bypass or overflow shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections F.1 and F.2 of Self-Monitoring Program Part A.

F. SLUDGE

The discharger shall analyze sludge on a semiannual basis for priority pollutant metals and organics.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table I and Table 1 Footnotes.

III. 1. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect 24-hour composite samples of the treatment plant effluent at the compliance point station specified in the Self-Monitoring Program, for critical life stage toxicity testing in accordance with the attached table. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.
- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in Order No. 94-014, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 50%, 25%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

2. CHRONIC TOXICITY REPORTING REQUIREMENTS

- A. Routine Reporting: Toxicity test results for the current reporting period shall include, at a minimum, for each test:
 - 1. sample date(s)
 - 2. test initiation date
 - 3. test species
 - 4. end point values for each dilution (e.g. number of young, growth rate, percent survival)
 - 5. NOEC value(s) in percent effluent
 - 6. IC₁₀, IC₁₅, IC₂₅, and IC₅₀ values (or EC₁₀, EC₁₅ . . .etc.) in percent effluent
 - 7. TUC values (100/NOEC, 100/IC₂₅, and 100/IC₅₀)
 - 8. Mean percent mortality (\pm s.d.) after 96 hours in 100% effluent (if applicable)
 - 9. NOEC and LOEC values for reference toxicant test(s)
 - 10. IC₅₀ or EC₅₀ value(s) for reference toxicant test(s)
 - 11. Available water quality measurements for each test (e.g. pH, D.O., temperature, conductivity, hardness, salinity, ammonia)
- B. Compliance Summary: Each self-monitoring report shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A, item numbers 1, 3, 5, 6(IC₂₅ or EC₂₅), 7, and 8.
- C. Reporting Raw Data in Electronic Format: On a quarterly basis, by February 15, May 15, August 15, and December 15 of each year, the discharger shall report all chronic toxicity data for the previous calendar quarter in the format specified by the Statewide Chronic Toxicity Database Management System.

IV. MODIFICATIONS TO PART A

The second sentence of paragraph C.2(a) is revised as follows: "At least one sampling day in each seven shall reflect, if possible, one day of

peak loading and during major unit operation shutdown or startup."

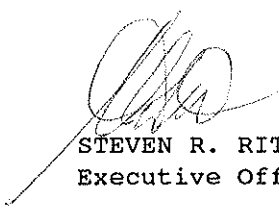
Add to Paragraph C.2(d): "This requirement shall not apply to chronic toxicity monitoring."

IV. REPORTING REQUIREMENTS

- A. General Reporting Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated August 1993.
- B. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the twentieth day of the following month. The required contents of these reports are described in Section F.4 of Part A.
- C. An Annual Report for each calendar year shall be submitted to the Board by January 30 of the following year. The required contents of the annual report are described in Section F.5 of Part A.
- D. Any Overflow, bypass or significant non-compliance incident that may endanger health or the environment shall be reported according to Sections F.1 and F.2 of Part A.
- E. Revisions to the Discharger's Contingency Plan, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year [Provision F.16].

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 94-014.
- 2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be authorized by the Executive Officer.
- 3. Is effective on the date shown below.


STEVEN R. RITCHIE
Executive Officer

Effective Date 5/20/94

Attachment: Table 1 with Table 1 Footnotes

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

[illegible]

TABLE 1 (continued)											
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS											
SAMPLING STATION	A	E-001			E-001-D1 E-001-D2		E-001-DC		All C	All P	All OV (20)
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	Cont	G	Cont	G/O	O	G/O
Arsenic (9)			M								
Cadmium			M								
Chromium			M								
Copper			2W								
Lead			M								
Mercury			M								
Nickel			M								
Selenium (10)			M								
Silver			M								
Zinc			M								
Cyanide (11)			M								
Phenolic Compounds			M								
PAH's (12)			M								
Organic Priority Pollutants Table 1, Sect. B.6 of Permit) (13, 14, 15, 16, 17, 18, 19)			Y								
All Applicable Standard Observations									Q	2W	E

Legend and Footnotes for Table 1 are on the following pages.

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample (24 hour)
Cont = continuous sampling
O = observation

TYPES OF STATIONS

A = treatment facility influent station
E = waste effluent station
L = basin and/or pond levees stations
C = receiving water station
P = treatment facilities perimeter station
OV = bypasses or overflows from manholes,
pump stations, or collection systems

FREQUENCY OF SAMPLING

E = each occurrence	2/H = twice per hour	2H = every 2 hours
H = once each hour	2/W = 2 days per week	2D = every 2 days
D = once each day	5/W = 5 days per week	2W = every 2 weeks
W = once each week	2/M = 2 days per month	2M = every 2 months
M = once each month	2/Y = once in March & Sept.	Cont = continuous
Y = once each year	3/Y = once each in March, July, & Nov.	
	Q = quarterly, once each in March, June, Sept., & Dec.	

FOOTNOTES FOR TABLE 1:

1. Flow Rate - Effluent flows shall be measured continuously. The following flow information shall be reported monthly for the effluent:

Average Daily Flow Rate (MGD)
Maximum Daily Flow Rate (MGD)
Minimum Daily Flow Rate (MGD)
Total Flow Volume (MG)

2. Oil and Grease - Each Oil and Grease sample shall consist of three grab samples taken at two hour intervals during the sampling day, with each being collected in a glass container. The grab samples shall be composited for analysis in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus five percent (5%). Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.
3. Chlorine Residual - Monitor dechlorinated effluent (E-001-DC) continuously or, at a minimum, once every two hours. Report, on a daily basis, both maximum and minimum concentrations, for samples taken following dechlorination. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken.

Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable

operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

Chlorine Dosage - Record, and report on a monthly basis the amount of hypochlorite used for disinfection during each week.

4. When replicate analyses are made of a coliform sample, the reported result shall be the arithmetic mean of the replicate analysis values.
5. The discharger shall determine the two species to be used as specified in Provision F.4 of Order No. 94-014. The tests shall be parallel 96-hour flow through bioassays. The discharger shall perform the tests according to protocols approved by the USEPA, State Board, published by the American Society for Testing and Material (ASTM), or American Public Health Association. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, and temperature. These results shall be reported.
6. Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Section IV and V of this Self-Monitoring Program.
7. If pH is monitored more than once during any day, then daily minimum and maximum for pH shall be reported.
8. Effluent and receiving water analysis for sulfides should be run when dissolved oxygen is less than 5.0 mg/l.
9. Arsenic must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA Method No. 206.3/Standard Method No. 303E).
10. Selenium must be analyzed for only by the atomic absorption, gaseous hydride procedure (EPA Method No. 270.3/Standard Method No. 303E).
11. The discharger may analyze for cyanide as Weak Acid Dissociable Cyanide using protocols specified in Standard Method No. 4500-CN-I, latest edition.
12. PAHs = Polynuclear Aromatic Hydrocarbons. PAH's shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

Polynuclear aromatic hydrocarbons shall be analyzed using EPA Method 610 of the July, 1982, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-6--/4-82-057. Note that the samples must be collected in amber glass containers. These samples shall be collected for the analysis of the regulated parameters. An automatic sampler which incorporates glass sample containers and keeps the samples refrigerated at 4°C and protected from light during compositing may be used. The 24-hour composite samples may consist of eight grab samples collected at 3-hour intervals. The analytical laboratory shall remove flow-proportioned volumes from each sample vial or container for the analysis.

13. To determine tributyltin, the discharger shall use a USEPA approved method, or a method which is capable of speciating organotines, and is capable of low method detection limits on the order of 5 nanograms per liter (ng/l).
14. Organochlorine and other Organohalide Pesticides and Polychlorinated Biphenyl Toxic Pollutants shall be analyzed using EPA Method 608 as specified in 40 CFR 136.
15. Volatile Organic Toxic Pollutants shall be analyzed using EPA Methods 601 and 602, or Method 624 as specified in 40 CFR 136 (Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057, July 1982).
16. Acid and Base/Neutral Extractable Organic Toxic Pollutants shall be analyzed using EPA Method 625 as specified in 40 CFR 136 (Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057, July 1982).
17. Chlorinated Dibenzodioxins and Chlorinated Dibenzofurans shall be analyzed using EPA Method 1613.
18. Selected Toxic Constituents - The initial monitoring for these constituents shall be as described in Provision F.11 of Order No. 94-014. The monitoring schedule thereafter shall be as follows: For those constituents that are present at concentrations at or above the effluent limit, monitoring shall be performed on a semi-annual basis, For those constituents that are detectable (or non-detectable) at levels below the effluent limit, monitoring shall be performed on an annual basis.
19. Monitoring for TCDD equivalents shall be monitored once per permit reissuance.
20. Overflows -
 - (a) Flow: For all overflow events, a best estimate of the total overflow volume (gallons) shall be reported.
 - (b) BOD and Coliform: For any overflow event which involves discharge of wastewater to any surface water or waterway (including dry streams and drainage channels), grab samples shall be taken and analyzed for BOD, and both Total and Fecal Coliform.

NOTES FOR TABLE 1:

1. Percent removal for BOD and Total Suspended Solids (effluent vs. influent) shall also be reported.
2. Grab Samples shall be collected coincident with samples collected for the analysis of regulated parameters. Grab samples must be collected in glass containers. Polycarbonate containers may be used to store tributyltin samples.
3. If any effluent sample is in violation of limits, except those for metals, cyanide, and organics, sampling shall be increased for that parameter to

at least daily or greater until compliance is demonstrated in two successive samples. Receiving water violations shall be reported in the monthly report; increased receiving water monitoring may be required.

4. All flow other than to the outfall (e.g., sludge) shall be reported monthly. Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.
5. Detection Limits - Laboratory analyses shall be conducted in such a manner as to provide analytical information sufficient to determine compliance with the applicable effluent limitations (Effluent Limitations B.7 of Permit). If the necessary analytical performance is unable to be achieved, the Discharger may request, with supporting documentation, approval from the Executive Officer to allow the use of the best achievable analytical performance. All constituents shall be reported in mg/l or ug/l, and kg/day.
6. During any time when bypassing occurs from any treatment unit(s) in the treatment facilities, the monitoring program for the effluent discharged shall include the following in addition to the above schedule for sampling, measurement and analyses:
 - a. Composite sample on an hourly basis for the duration of the bypass event for BOD, and Total Suspended Solids analyses. Grab samples at least daily for Coliform (Total and Fecal), Settleable Matter and Oil and Grease analyses.
 - b. Continuous monitoring or hourly grab samples for chlorine residual measurement, and continuous monitoring of bypassed flow.
 - c. Daily receiving water sampling and observations shall be performed until it is demonstrated that no adverse impact on the receiving water is detected (receiving water monitoring shall be performed only for bypasses which occur for more than 24 hours, and that result in violation of any effluent limitation (receiving water monitoring is not necessary during bypass events related to wet weather flows as described in Finding 9)).

ATTACHMENT

STANDARD STORM WATER PROVISIONS

1. The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:
 - a. to identify pollutant sources that may affect the quality of storm water discharges; and
 - b. to identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing spill prevention plan as required in accordance with Provision 8 of Standard Provisions and Reporting Requirements. The SWPP Plan shall be retained onsite and made available upon request of a representative of the Regional Board.

2. Source Identification. The SWPP Plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or which may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:
 - a. A topographic map (or other acceptable map if a topographic map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing: the wastewater treatment facility process areas, surface water bodies (including springs and wells), and the discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other water body. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
 - b. A site map showing:
 - i. Storm water conveyance, drainage, and discharge structures;
 - ii. An outline of the storm water drainage areas for each storm water discharge point;
 - iii. Paved areas and buildings;
 - iv. Areas of pollutant contact with storm water or release to storm water, actual or potential,

including but not limited to outdoor storage, and process areas, material loading, unloading, and access areas, and waste treatment, storage, and disposal areas;

- v. Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
- vi. Surface water locations, including springs and wetlands;
- vii. Vehicle service areas;

C. A narrative description of the following:

- i. Wastewater treatment process activity areas.
- ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials with storm water discharge;
- iii. Material storage, loading, unloading, and access areas;
- iv. Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharge;
- v. Methods of onsite storage and disposal of significant materials;

D. A list of pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

3. Storm Water Management Controls. The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls shall include, as appropriate:

- a. Storm Water Pollution Prevention Personnel. Identify specific individuals (and job titles) who are responsible for developing, implementing, and revising the SWPP Plan.
- b. Good Housekeeping. Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall

be inspected and cleaned to reduce the potential for pollutants to enter the storm water conveyance system.

- c. Spill Prevention and Response. Identification of areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, clean up equipment and procedures should be identified, as appropriate. The necessary equipment to implement a clean-up shall be available and personnel trained in proper response, containment and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.
- d. Source Control. Source controls, such as elimination or reduction of the use of toxic pollutants, covering of pollutant areas, sweeping of paved areas, containment of potential pollutants, labelling all storm drain inlets with "No Dumping" signs, isolation/separation of industrial from non-industrial pollutant sources so that runoff from these areas does not mix, etc.;
- e. Storm Water Management Practices. Storm water management practices are practices other than those which control the source of pollutants. They include treatment/conveyance structures such as drop inlets, channels, retention/detention basins, treatment vaults, infiltration galleries, filters, oil/water separators etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharge shall be implemented and design criteria shall be described.
- g. Sediment and Erosion Prevention. Measures to limit erosion around the storm water drainage and discharge points such as riprap, revegetation, slope stabilization, etc. shall be described and implemented;
- h. Employee Training. Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training should address spill response, good housekeeping, and material management practices. Periodic dates for training shall be identified.
- i. Inspections. All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants

entering storm water discharges. A tracking or follow-up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

- j. Records A tracking and follow up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections. Records of inspections shall be maintained. Establishment of internal record keeping and internal reporting procedures of inspections and spill incidents.
- 4. An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan (i.e., site map, potential pollutant sources, structural and non-structural controls to reduce pollutants in industrial storm water discharge, etc.) are accurate. A report of the annual inspection and observations that require a response (and the appropriate response to the observation) shall be retained as part of the SWPP Plan.